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EXAMINER

TURCHEN, JAMES R

ART UNIT	PAPER NUMBER
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2139

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,423

Applicant(s)

KOGAN ET AL.

Examiner

James Turchen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/22/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-31 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 recites the limitation "said digital elements" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-12, 16, 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Price R-W et al. (US 6,052,068; herein Price).

Price discloses a security method for the detection and/or control of unauthorized vehicles among a large number of authorized vehicles within a controlled geographical zone (column 11 lines 61-63, allows determination of vehicle registration data from advantageously greater distances with multiple vehicles in the range of the system), characterized in that all authorized vehicles are equipped with active licenses planned to perform a cryptographic action involving a secret cryptographic key (column 4 lines 45-51, vehicle identification tags (VIT) are affixed to a car in several locations; column 9 lines 3-4, encryptor employs DES or other types of encryption), and the controlled geographical zone is equipped with automatic control points, and optionally with manual control points (column 3 lines 30-32, may be located on a police car (manual control point) or in a fixed location (automatic control point)), each automatic control point detecting all vehicles crossing a specific road section in its vicinity (it is inherent that an automatic control point detects all vehicles within its vicinity), and each manual control point selecting vehicles by the action of an operator (column 10 lines 50-55, operator selects to query a computer database for matches of vehicle registration data), the vehicles detected by the automatic control points and the vehicles selected by the manual control points being hereafter referred to as designated vehicles, both types of control points being planned to acquire the results of said cryptographic actions performed by the active licenses of said designated vehicles (column 5 lines 26-29, receiver 38, signal decoding circuit 40, and decryptor 42 work in conjunction to acquire the results of the VIT), a cryptographic authentication algorithm involving a validation key being further performed upon each acquired said result (column 5 lines 55-56,

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encryptor employs DES and it is inherent that decryptor will employ the same algorithm), both types of control points being further planned to associate said acquired results to said designated vehicles, the designation of the vehicles, the acquiring of said results, and the performing of the cryptographic authentication algorithm upon said acquired results not requiring a change in the motion conditions of the vehicles, in particular their velocity, an alert message being transmitted to enforcement authorities for each vehicle which has been classified as unauthorized (column 4 lines 12-21, allows authorized users to access the database and obtain and compare the records of motor vehicle, criminal files, or warrant files), allowing in such a way for an immediate intervention and a possible interception of the unauthorized vehicles.

Price does not disclose classifying as unauthorized at least vehicles which have been designated but whose said results either have not been acquired or have not been cryptographically authenticated. It would have been obvious to one of ordinary skill in the art at the time of invention to label units that did not respond as faulty, tampered, suspicious, or illegal in order to easily identify the units that did not respond with information.

Price does not specifically disclose at least some of the control points, hereafter referred to as particular control points, being moreover planned to acquire physical characteristics of said designated vehicles, allowing their direct recognition, said alert message including in this case said physical characteristics. Price does disclose transmitting and receiving motor vehicle information. Motor vehicle information typically discloses make, model, year, and color. It would have been obvious to one of ordinary

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skill in the art at the time of invention to have the interrogator to display and check the database for the additional motor vehicle information in order to allow for the checking of discrepancies of physical information with visual information.

Regarding claim 2:

Price discloses a method as described in claim 1, in which at least some of said active licenses, hereafter referred to as particular active licenses, additionally have distinct identities (column 3 lines 52-54, vehicle registration and owner identification records; column 4 lines 55-58, permanent registration identity), each distinct identity belonging to a group of one or more of said particular active licenses (each vehicle registration inherently has it's own distinct identity either through VIN and/or license plate number and state), and distinct identity determination being further performed for all designated vehicles bearing said particular active licenses, upon each said acquired result (column 4 lines 1-12, the VIT transmits a response signal with the vehicle identification information).

Regarding claim 3:

Price discloses a method as described in claim 2, in which said controlled geographical zone contains one or more sub-zones (examiner interprets each control point (interrogator) disclosed by Price as it's own sub-zone, the collection of interrogators makes up the entire geographical zone), each vehicle being further authorized or unauthorized for each of the sub-zones (it is inherent that the vehicle is checked at each interrogator), each sub-zone being further equipped with automatic control points and optionally with manual control points, a database of authorization

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data (column 4 line 19, computer databases) regarding said particular active license distinct identities being associated with each sub-zone, each determined distinct identity of a vehicle designated by a control point being further checked against said authorization data in the databases associated with the sub-zones containing that control point (column 11 lines 5-7, the database is searched for any matches to the vehicle registration data received), said databases being automatically and/or manually modifiable by the enforcement authorities (column 4 lines 52-55, DMV issues a set of VITs (it is inherent that information is input into the database), additionally classifying as unauthorized vehicles which have been designated but whose said distinct identities are indicated as unauthorized by said authorization data in at least one of the databases associated with the sub-zones containing that control point (column 4 lines 12-17, motor vehicle records, criminal files, or warrant files are transmitted back to interrogator; warrant files, criminal files, and/or vehicle records would inherently indicate if a car is unauthorized via expiration, insurance, or through an issued warrant).

Regarding claim 5:

Price discloses a method as described in claim 2, in which said secret cryptographic keys of at least some of said particular active licenses are distinct (column 5 lines 52-58, DES algorithm uses a symmetric key), this, according to the level of protection required for those said particular active licenses, correspondence between said distinct secret cryptographic keys and said distinct identities being additionally required in order to cryptographically authenticate said results, so that a perpetrator in possession of a particular active license, is prevented from impersonating a particular

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active license with a different distinct secret cryptographic key (it is inherent in DES that an improper key will produce results that are unreadable by the receiver).

Price does not disclose each distinct key corresponding to a group of one or more said particular active license distinct identities. It would have been obvious to one of ordinary skill in the art at the time of invention to correspond a distinct key with a group of one or more active licenses in order to limit the amount of individual keys within the system and to be able to locate who issued a fraudulent active license.

Regarding claim 6:

Price discloses a method as described in claim 1, but does not explicitly disclose in which said alert messages are prioritized, according to the control point characteristics, such as its location, alert message history, etc, and/or the time of designation of the vehicle, and/or said acquired physical characteristics if available, and/or current operational intelligence if available, improving the effectiveness of the intervention of the enforcement authorities. It would have been obvious to one of ordinary skill in the art at the time of invention to inform the user of the interrogator in the patrol car of information that is considered to be more important such as a warrant and criminal files as to allow the patrol car to intercept the vehicle within its vicinity.

Regarding claims 8, 9, and 11:

Price discloses a method as described in claim 1, in which at least some of the authorized vehicles are additionally provided with removable supports containing at least said secret cryptographic keys (column 4 line 67-column 5 line 5, the VIT is mounted to the car (inherently using supports) and uses secure techniques to prevent

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an authorized entry of an activation pass key or access to internal processes and data; Figure 4 column 8 lines 15-28, all of the encryption/decryption is done within the mounted VIT).

Regarding claim 10:

Price discloses a method as described in claim 1, in which at least some of the authorized vehicles are additionally provided with supports containing at least said secret cryptographic keys, these supports being physically attached to said authorized vehicles, in a manner preventing their physical displacement from the vehicles and/or causing their destruction and/or eliminating the said secret cryptographic keys from said supports, in case of an unauthorized displacement attempt (column 2 lines 28-32, each tag will transmit an alarm to any nearby interrogator if they have been tampered or displaced).

Regarding claim 12:

Price discloses a method as described in claim 1, in which at least some of said active licenses are additionally associated to PINs (Personal Identification Numbers), said PINs supplied to said active licenses by users in possession of authorized vehicles, said PINs being additionally required by said active licenses in order to generate said results of said cryptographic action, and/or being further required in order to cryptographically authenticate said results (column 11 lines 10-28, procedure informs the operator to enter a password for authorized access to the VIT). Price does not explicitly disclose the use of a PIN, but it would have been obvious to one of ordinary

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skill in the art at the time of invention to limit the password to numbers only in order to create an easier to remember password.

Regarding claim 16:

Price discloses a method as described in claim 2, in which digital elements of the first type are the elements of predefined series associated with distinct identities (column 4 lines 9-12, interrogator receives vehicle identification information (digital elements)).

Regarding claim 18:

Price discloses a method as described in claim 1, in which said control points are moreover planned to acquire a credential from the active license of each said designated vehicle, said validation key being securely extracted from each acquired credential by performing a cryptographic extraction algorithm involving an extraction key (column 10 lines 21-32, the interrogator receives and decrypts the message; column 10 lines 35-48, the message is decoded and output is shown to operator).

Regarding claim 19:

Price discloses a method as described in claim 2, in which said validation key is selected from a list of validation keys, according to said determined distinct identity (it is inherent with symmetric key cryptography that the key is either exchanged or is selected from a list based on identity).

Regarding claim 20:

Price discloses a method as described in claim 1, in which the cryptographic process consisting of said cryptographic actions in said active licenses and said

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cryptographic authentications of said acquired results, is of a symmetric type, an asymmetric type, or a combination of both (column 5 lines 54-58, DES algorithm is a symmetric type).

Regarding claim 21:

Price discloses a method as described in claim 1, in which at least some of said control points are further planned to associate each said acquired result to a particular designated vehicle (column 6 line 63-column 7 line 4, the VIT randomly selects a unique binary sequence and interrogator uses a directive antenna).

Regarding claim 22:

Price discloses a method as described in claim 1, in which the memory contents of said active licenses can be altered as a consequence of instructions and/or data transmitted from the control points (column 3 lines 61-65, the interrogator is able to modify the less secure section of memory).

Regarding claims 23 and 24:

Price discloses a single VIT as shown in the rejection of claims 1-22. Claims 23 and 24 correspond to a duplication of parts of the method disclosed in claims 1-22. Although Price does not disclose a plurality of VITs, mere duplication of parts has no patentable significance unless a new and unexpected result is produced (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960); MPEP 2144.04 Section VI.B)

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Price as applied to claim 2 above, and further in view of Maloney (US 2002/0153418; herein Maloney).

Price discloses a method as described in claim 2, in which data regarding said designated vehicles (such as said particular active licenses distinct identities, control points location, times of designation of vehicles, etc) is additionally recorded (column 10 line 58-column 11 line 7, the data is recorded to the databases), but does not disclose this data being searched for inconsistencies with regard to time and/or vehicles location, the results of this search assisting enforcement authorities in finding potential impersonations of said particular active licenses. Maloney discloses if location history data is inconsistent, then the data is flagged for suspicious condition (paragraph 52). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method disclosed by Price to incorporate checking location in order to find suspicious conditions.

Claims 13-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Price as applied to claims 1 and 2 above, and further in view of Applied Cryptography.

Regarding claims 13-15 and 17:

Price discloses a method as described in claim 1, in which digital elements of a first type are used in performing the cryptographic actions of at least some of said active licenses (column 5 lines 52-58, the DES algorithm is used for encryption; it is inherent that a cryptographic message contains digital elements such as a name or random number), said digital elements of the first type being additionally required in order to cryptographically authenticate said acquired results, but Price does not disclose said digital elements of the first type being furthermore different at different times, preventing

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in this way the authentication of recorded and replayed said results. Applied Cryptography discloses that in authentication and key exchange, timestamps can defeat a replay attack and can be added to the digital elements (page 58-59). It would have been obvious to one of ordinary skill in the art to modify the method of Price to include timestamps in order to defeat replay attacks (page 59). It is inherent in authentication and key exchange for the digital elements to be acquired by the control points (Bob) and used in the communications with the designated vehicles (Alice) (pages 59-59).

Claims 25-31 correspond to the apparatus of the method claims 1-24 and are hereby rejected under the same reasoning as claims 1-24.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Turchen whose telephone number is 571-270-1378. The examiner can normally be reached on MTWRF 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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JRT


TAGHI ARANI
PRIMARY EXAMINER
5/25/07